Listing of Claims:

1. (*Currently Amended*) A method of making fused silica for use in photolithography at shorter than 193 nm, comprising:

generating a plasma;

delivering a powder containing silicon dioxide into the plasma to produce silica particles; and

depositing the silica particles on a rotating horizontal deposition surface while at the same time consolidating the particles to form glass.

2. (*Original*) The method of claim 1, wherein a nominal grain size of the powder ranges from 0.1 to 300 μm.

3. (*Original*) The method of claim 1, further comprising delivering a dopant material into the plasma to produce doped silica particles.

4. (*Original*) The method of claim 3, wherein the dopant material comprises a compound capable of being converted to an oxide of at least one member of the group consisting of B, Al, Ge, Sn, Ti, P, Se, Er, Na, K, Ca and S.

5. (*Original*) The method of claim 3, wherein the dopant material comprises a fluorine compound.

6. (*Original*) The method of claim 5, wherein the fluorine compound is selected from the group consisting of CF_4, CF_xCl_{4-x}, where x ranges from 1 to 3, NF_3, SF_6, SiF_4, C_2F_6, and F_2.

7. (*Original*) The method of claim 1, wherein the plasma is generated by induction with a high frequency generator.

8. (*Original*) The method of claim 1, wherein the powder further comprises a dopant material.

9. (*Original*) The method of claim 8, wherein the dopant material comprises fluorine.

10. (*Original*) The method of claim 1, wherein the silica is formed in an enclosure having a water vapor content less than 1 ppm by volume.

11. (*Canceled*)

12. (*Original*) The method of claim 1, wherein the powder is natural quartz.

13. (*Original*) The method of claim 1, wherein the powder is synthetic quartz.

14. (*Canceled*)

15-19. (*Canceled*)

20. (*Currently Amended*) A method of making fused silica based photomask blank for use in photolithography at shorter than 193 nm, comprising:

generating a plasma;

delivering a powder containing silicon dioxide into the plasma to produce silica particles;

depositing the silica particles on a rotating horizontal deposition surface while at the same time consolidating the particles to form silica glass;

cooling the consolidated glass; and

cutting the consolidated glass into pieces and finishing them into photomask blanks.

21. (*Previously Presented*) The method of claim 20, wherein a nominal grain size of the powder ranges from 0.1 to 300 μm.

22. (*Previously Presented*) The method of claim 20, further comprising delivering a dopant material into the plasma to produce doped silica particles.

23. (*Previously Presented*) The method of claim 22, wherein the dopant material comprises a compound capable of being converted to an oxide of at least one member of the group consisting of B, Al, Ge, Sn, Ti, P, Se, Er, Na, K, Ca and S.

24. (*Previously Presented*) The method of claim 22, wherein the dopant material comprises a fluorine compound.

25. (*Previously Presented*) The method of claim 24, wherein the fluorine compound is selected from the group consisting of CF_4, CF_xCl_{4-x}, where x ranges from 1 to 3, NF_3, SF_6, SiF_4, C_2F_6, and F_2.

26. (*Previously Presented*) The method of claim 24, wherein the plasma is generated by induction with a high frequency generator.

27. (*Previously Presented*) The method of claim 20, wherein the powder further comprises a dopant material.

28. (*Previously Presented*) The method of claim 27, wherein the dopant material comprises fluorine.

29. (*Previously Presented*) The method of claim 20, wherein the silica is formed in an enclosure having a water vapor content less than 1 ppm by volume.

30. (*Previously Presented*) The method of claim 20, wherein the powder is natural and/or synthetic quartz.